

The present invention relates to a process for improving the purity of a composition comprising a quaternary ammonium hydroxide comprising the steps of (a) providing an electrolysis cell which comprises an anolyte compartment containing an anode, a catholyte compartment containing a cathode, and at least one intermediate compartment, said at least one intermediate compartment being separated from the anolyte and catholyte compartments by cation selective membranes, (b) charging water, optionally containing a supporting electrolyte, to the anolyte compartment, charging water, optionally containing a quaternary ammonium hydroxide, to the catholyte compartment, and charging the composition comprising the quaternary ammonium hydroxide to be purified to the intermediate compartment, (c) passing a current through the electrolysis cell to produce a purified aqueous quaternary ammonium hydroxide solution in the catholyte compartment, and (d) recovering the purified aqueous quaternary ammonium hydroxide solution from the catholyte compartment. The process is particularly suitable for improving the purity of an aqueous solution comprising tetramethylammonium hydroxide which has been used in the production of 4-aminodiphenylamine for a number of reaction cycles.

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